

NOTE: Attach panel lengths of tube members continuously to a minimum of three posts.

DETAILER NOTE: Modify the Partial Section to fit your project (DELETE THIS NOTE)

NOTE: Fabricate sleeves using channels, angles, plates, or bent plates meeting the dimensions shown. Weld and grind smooth as required. Fabricate sleeves using no more than four welds. Fabricate sleeves with a minimum wall thickness of 6 mm.

## NOTES

**GALVANIZING:** Galvanize all bolts, nuts, washers and pipe sleeves in accordance with AASHTO M 232M. Galvanize metal guardrail in accordance with ASTM Specification A 653M or AASHTO M 111M.

**REFLECTORS:** Place a reflector on each end rail post and at approximately equal spacing (every third rail post but not to exceed 7620 mm) between end rail posts. Mount reflectors with reflectorized face toward oncoming traffic. See Dtl. Dwg. No. 606-05 for reflector detail. Mount reflector to W-beam post web with an approved adhesive. Include the cost of the reflector in the unit price bid for Revise Timber Bridge Rail - T101.

**PAYMENT:** Revise Timber Bridge Rail - T101 is paid for by the linear meter which is full compensation for all resources necessary to complete the item. The number of linear meters of Revise Timber Bridge Rail - T101 for payment is the distance between centerlines of the drilled foundation anchor posts as shown on this sheet (See Summary Table below). Use posts and plates conforming to AASHTO M 270M Grade 250T3. Use metal guardrail conforming to AASHTO M 180 and lap in direction of traffic.

**ERECTION:** Set the rail parallel to the roadway grade. Set rail posts perpendicular to adjacent roadway grade and vertical in relation to roadway cross slopes. Adjust rail to proper rail height using vertical slots in rail posts.

**PAINTING:** Paint all posts, structural tubing and plates (except as noted) in accordance with the Standard Specifications. Galvanizing the posts, structural tubing and plates in accordance with AASHTO M 111M is allowed.

**SELECT STRUCTURAL TIMBER FOR SOLID BRIDGING:** Use standard sawn Inter-mountain Douglas Fir, Western Larch or Pacific Coast Douglas Fir conforming to AASHTO M 168 meeting the requirements for numerical stress values shown on the table below for Dense No. 1 timber for solid bridging. Clearly note the grade of timber on the shop plans to avoid oversight. AASHTO classification for solid bridging is Beams and Stringers. Use treated timber meeting the requirements of Standard Specification Section 706.

DESCRIPTION	EXTREME FIBER IN BENDING $F_b$ & TENSION PARALLEL TO GRAIN $F_t$ (MPa)		HORIZ. SHEAR $F_v$ (MPa)	COMPRESSION (MPa)		MODULUS OF ELASTICITY $E$ (MPa)
	$F_b$	$F_t$		PERPENDICULAR TO GRAIN $F_{c\perp}$	PARALLEL TO GRAIN $F_{c\parallel}$	
75 x 460 Bridging	10.7	5.3	0.59	5	7.6	11 700

**DIMENSIONS:** All dimensions are in millimeters except as noted. Verify all dimensions in the field before ordering any materials and before fabrication is begun.

Details shown on this drawing apply to both sides for the entire length of the structure.

Remove existing rails, railposts, curb and hardware as shown on this drawing. All removed items remain the property of the State. Set aside for pickup by State Forces. Removal costs are included in the unit price bid for Revise Timber Bridge Rail - T101.

Replace any timber which is to be incorporated in the rehabilitated structure that is damaged during construction at no additional cost to the State.

Chamfer edge of deck directly under location where 12 mm plate connects with rail post to clear fillet weld as shown in Detail A.

Plug open holes exposed by revisions with treated dowels. Thoroughly coat all new holes, cuts and chamfers as per Standard Specifications.

**FABRICATION:** For the purposes of fabrication, this rail system is considered an ancillary item. The requirements of subsection 1.3.6 of AASHTO/AWS D1.5 apply.

## SUMMARY TABLE

FEATURE CROSSED	BRIDGE IDENTIFICATION NUMBER	STATION	GENERAL LAYOUT DWG. NO.	LENGTH OF RAIL (ONE SIDE ONLY) (LINEAR METERS)	TOTAL LENGTH FOR PAYMENT (LINEAR METERS)	ANCHOR POST (EACH)
XXXXX	P00000 000+0.000	XXX+XX.XX	XXXX	XX.XXX	XX.X	X

Type 2 Bridge Approach Section  
See Road Plans and Dtl. Dwg. No. 606-24

Include in the unit price bid for Revise Timber Bridge Rail - T101 (Typ. both sides)  
(For actual length see Summary Table on this sheet)

Sta. XX + XX Bent X  
Sta. XX + XX Bent X

Fill face of backwall @ outside edge of stringer

17 spaces @ 2 540 mm ctrs.

Remove existing rail, rail posts and curb (Typ.)

New T101 railing

Finished grade

Drilled Foundation Anchor Post (See Dwg. No. XXXXX)

NOTE: Plug unused predrilled holes in the rail with standard splice bolts.

NOTE: See Det. Dwg. No. 606-B4 for plate washer detail.

DETAILER NOTE: This detail is shown with 6"x 18" stringers. Modify to fit your project if necessary (DELETE THIS NOTE)

2 - 20 mm I.D. galvanized standard pipe sleeves (snug fit)

102 x 76 x 6.4 Structural tubing (ASTM A500, Grade B)

32 mm  $\phi$  x 70 mm galvanized extra strong pipe sleeve

Standard metal guard rail

W150 x 30 post

New asphalt wearing surface

Existing 50 mm x 100 mm laminated decking

Existing timber stringers

New 75 mm x 460 mm solid bridging (center between rods and nail to stringer to hold in position)

2 - 20 mm I.D. galvanized standard pipe sleeves (snug fit)

102 x 76 x 6.4 structural tubing

Sleeve member

6 mm  $\phi$  Pin (driving fit) or welded lug

SECTION E-E

No Scale

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

## SLEEVE FABRICATION OPTIONS

NOTE: The weld is subject to ultrasonic testing.

W150 x 30 Post

12 mm  $\phi$

15 mm Chamfer

Existing deck

5.0 mm  $\phi$

18 mm  $\phi$  drain hole

45°

6

45°

320

50

110

110

50

20 mm  $\phi$  x 65 mm slot

24 mm  $\phi$  x 30 mm slots

At splices between posts eliminate this slot or provide buttonhead bolt

Traffic

RAIL SPLICE POST CONNECTION

NOTE: Provide M16 oval shouldered buttonhead bolts with hex nuts at all splice slots.

Roll post

22 mm  $\phi$  x 50 mm slotted holes for vertical adjustment (Typ. both flanges)

255

100

48

VIEW D-D

18 mm  $\phi$  holes for M16 x 75 mm lag bolts (Typ.) space as shown

Backgauge

6

45°

2

12 mm  $\phi$

Roll post

L 51 x 38 x 6.4

75

4 Sp. @ 180 mm ctrs.

75

435

435

870

SECTION C-C

DETAIL B

SECTION B-B

SECTION A-A

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

SECTION H-H

SECTION I-I

SECTION J-J

SECTION K-K

SECTION L-L

SECTION M-M

SECTION N-N

SECTION O-O

SECTION P-P

SECTION Q-Q

SECTION R-R

SECTION S-S

SECTION T-T

SECTION U-U

SECTION V-V

SECTION W-W

SECTION X-X

SECTION Y-Y

SECTION Z-Z

SECTION AA-AA

SECTION BB-BB

SECTION CC-CC

SECTION DD-DD

SECTION EE-EE

SECTION FF-FF

SECTION GG-GG

SECTION HH-HH

SECTION II-II

SECTION JJ-JJ

SECTION KK-KK

SECTION LL-LL

SECTION MM-MM

SECTION NN-NN

SECTION OO-OO

SECTION PP-PP

SECTION QQ-QQ

SECTION RR-RR

SECTION SS-SS

SECTION TT-TT

SECTION UU-UU

SECTION VV-VV

SECTION WW-WW

SECTION XX-XX

SECTION YY-YY

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SECTION CC-CC

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SECTION VV-VV

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SECTION ZZ-ZZ

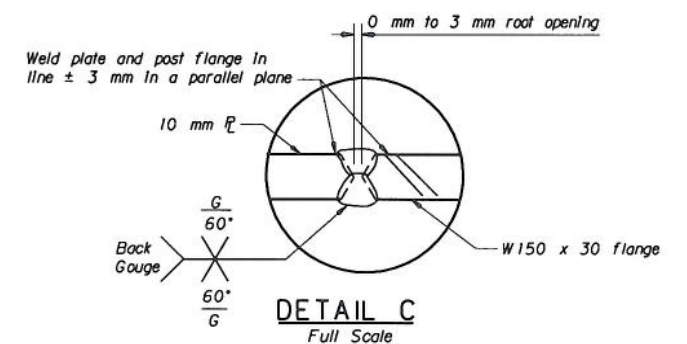
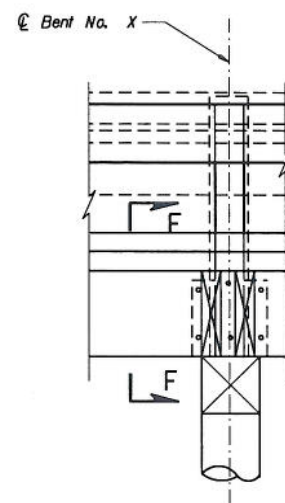
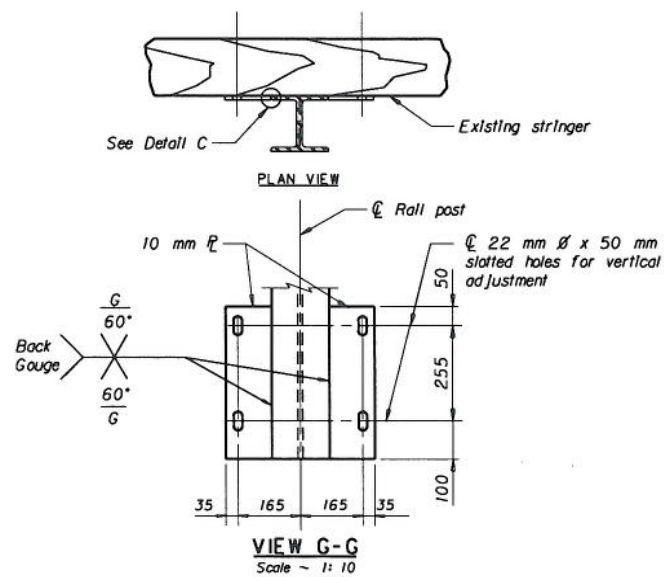
SECTION AA-AA

SECTION BB-BB

SECTION CC-CC



VI = SAA2  
1 : 10



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